

Appl. No.: 10/609,139
Amd. Dated 01/14/2005
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A handheld apparatus for spraying a fluid material, adapted to couple to a flow control valve having a grip and a trigger, comprising:
a plurality of spray nozzles;
a manifold supporting said spray nozzles; and
a handle feed tube coupled to said manifold;
said handle feed tube having a at least a portion positioned at an offset angle in relation to a longitudinal axis through said manifold;
wherein said portion of said feed tube positioned at an offset angle forms a handle; and
wherein said apparatus is adapted to be supported with one hand gripping the flow control valve and the other hand gripping said handle.
2. (canceled)
3. (original): An apparatus as recited in claim 1, wherein said handle includes an arcuate section.
4. (original): An apparatus as recited in claim 1, wherein said offset angle is fixed.
5. (original): An apparatus as recited in claim 1, wherein said offset angle is adjustable.

6. (original): An apparatus as recited in claim 5, further comprising means for adjusting said offset angle.

7. (original): An apparatus as recited in claim 6, further comprising an arcuate section of feed tubing said means for adjusting said offset angle and said manifold.

8. (original): An apparatus as recited in claim 6 or 7, wherein said means for adjusting said offset angle comprises a swivel adapted for internal fluid flow through said swivel.

9. (canceled)

10. (original): An apparatus as recited in claim 1, further comprising:
means fluidically coupled to at least one said nozzle for receiving a pressurized fluid, allowing said fluid to flow when the pressure of the fluid exceeds a bias level, and preventing fluid flow when the pressure of the fluid falls below the bias level.

11. (original): An apparatus as recited in claim 10, wherein said means for receiving a pressurized fluid, allowing said fluid flow to flow when the pressure of the fluid exceeds a bias level, and preventing fluid flow when the pressure of the fluid falls below the bias level, comprises:

a valve body;

said valve body having an intake port, a central channel and an output port;

a valve seat disposed within said central channel; and

a biased valve head;

said valve head configured to allow fluid to flow between said intake port and said output port when the pressure of said fluid is sufficient to overcome the bias on said valve head;

said valve head configured to engage said valve seat when the pressure of the flow of fluid drops to a level insufficient to overcome the bias on said valve head.

12. (original): An apparatus as recited in claim 11, further comprising:
means for increasing and decreasing said bias level on said valve head.

13. (original): An apparatus as recited in claim 12, wherein said means for increasing and decreasing the bias on said valve head comprises:
a spring configured to be adjustably compressed; and
means for adjusting the compression of said spring.

14. (original): An apparatus as recited in claim 13, wherein said means for adjusting the compression of said spring comprises a rotatable member positioned in said valve body.

15. (currently amended): A handheld apparatus for spraying a fluid material, adapted to couple to a flow control valve having a grip and a trigger, comprising:

a plurality of spray nozzles;
a manifold supporting said spray nozzles;
a handle feed tube coupled to said manifold;
said handle feed tube having at least a portion positioned at an offset angle in relation to a longitudinal axis through said manifold; ~~and~~

wherein said portion of said feed tube positioned at an offset angle forms a handle;

wherein said apparatus is adapted to be supported with one hand gripping the flow control valve and the other hand gripping said handle; and

means fluidically coupled to at least one said spray nozzle for receiving a pressurized fluid, allowing said fluid to flow when the pressure of the fluid exceeds a

bias level, and preventing fluid flow when the pressure of the fluid falls below the bias level.

16. (original): An apparatus as recited in claim 15, wherein said means for receiving a pressurized fluid, allowing said fluid flow to flow when the pressure of the fluid exceeds a bias level, and preventing fluid flow when the pressure of the fluid falls below the bias level, comprises:

- a valve body;

- said valve body having an intake port, a central channel and an output port;

- a valve seat disposed within said central channel; and

- a biased valve head;

- said valve head configured to allow fluid to flow between said intake port and said output port when the pressure of said fluid is sufficient to overcome the bias on said valve head;

- said valve head configured to engage said valve seat when the pressure of the flow of fluid drops to a level insufficient to overcome the bias on said valve head.

17. (original): An apparatus as recited in claim 16, further comprising:
means for increasing and decreasing said bias level on said valve head.

18. (original): An apparatus as recited in claim 17, wherein said means for increasing and decreasing the bias on said valve head comprises:

- a spring configured to be adjustably compressed; and

- means for adjusting the compression of said spring.

19. (original): An apparatus as recited in claim 18, wherein said means for adjusting the compression of said spring comprises a rotatable member positioned in said valve body.

20. (canceled)

21. (original): An apparatus as recited in claim 15, wherein said handle includes an arcuate section.

22. (original): An apparatus as recited in claim 15, wherein said offset angle is fixed.

23. (original): An apparatus as recited in claim 15, wherein said offset angle is adjustable.

24. (original): An apparatus as recited in claim 23, further comprising means for adjusting said offset angle.

25. (original): An apparatus as recited in claim 24, further comprising an arcuate section of feed tubing said means for adjusting said offset angle and said manifold.

26. (original): An apparatus as recited in claim 24 or 25, wherein said means for adjusting said offset angle comprises a swivel adapted for internal fluid flow through said swivel.

27. (currently amended): A handheld apparatus for spraying a fluid material, adapted to couple to a flow control valve having a grip and a trigger, comprising:

a plurality of spray nozzles;

a manifold supporting said spray nozzles;

a ~~handle~~ feed tube coupled to said manifold;

said ~~handle~~ feed tube having at least a portion positioned at an offset angle in relation to a longitudinal axis through said manifold; ~~and~~

wherein said portion of said feed tube positioned at an offset angle forms a handle;

wherein said apparatus is adapted to be supported with one hand gripping the flow control valve and the other hand gripping said handle; and

an anti-sputter flow control mechanism fluidically coupled to at least one said spray nozzle;

said at least one anti-sputter flow control mechanism comprising

- (i) a valve body having an intake port, a central channel and an output port,
- (ii) a valve seat disposed within said central channel, and
- (iii) a biased valve head configured to allow fluid to flow between said intake port and said output port when the pressure of said fluid is sufficient to overcome the bias on said valve head, and further configured to engage said valve seat when the pressure of the flow of fluid drops to a level insufficient to overcome the bias on said valve head.

28. (original): An apparatus as recited in claim 27, further comprising:
means for increasing and decreasing said bias level on said valve head.

29. (original): An apparatus as recited in claim 28, wherein said means for increasing and decreasing the bias on said valve head comprises:

a spring configured to be adjustably compressed; and
means for adjusting the compression of said spring.

30. (original): An apparatus as recited in claim 29, wherein said means for adjusting the compression of said spring comprises a rotatable member positioned in said valve body.

31. (canceled)

32. (original): An apparatus as recited in claim 27, wherein said handle includes an arcuate section.

33. (original): An apparatus as recited in claim 27, wherein said offset angle is fixed.

34. (original): An apparatus as recited in claim 27, wherein said offset angle is adjustable.

35. (original): An apparatus as recited in claim 34, further comprising means for adjusting said offset angle.

36. (original): An apparatus as recited in claim 35, further comprising an arcuate section of feed tubing said means for adjusting said offset angle and said manifold.

37. (original): An apparatus as recited in claim 35 or 36, wherein said means for adjusting said offset angle comprises a swivel adapted for internal fluid flow through said swivel.

38. (original): An apparatus as recited in claim 1, 15 or 27, further comprising means for coupling and decoupling said handle to a source of pressurized fluid.

39. (original): An apparatus as recited in claim 38, wherein said means for coupling and decoupling said handle to a source of pressurized fluid comprises a separable union.

40. (original): An apparatus as recited in claim 39, wherein said union comprises:

- a base member having an axial bore;
- a seal having an axial bore; and
- a collar configured to reversibly couple with said base member to facilitate alignment of said bores and engagement of said seal and said base member.

41. (original): An apparatus as recited in claim 40, wherein said seal has at least one frustoconical surface.

42. (original): An apparatus as recited in claim 40, further comprising a filter positioned within said base member.

43. (new): A handheld apparatus for spraying a fluid material, comprising:

- a plurality of spray nozzles;
- a manifold supporting said spray nozzles;
- a handle coupled to said manifold;
- said handle having at least a portion positioned at an offset angle in relation to a longitudinal axis through said manifold;
- means for coupling and decoupling said handle to a source of pressurized fluid;
- wherein said means for coupling and decoupling said handle to a source of pressurized fluid comprises a separable union;
- wherein said union comprises:
 - (i) a base member having an axial bore;
 - (ii) a seal having an axial bore; and
 - (iii) a collar configured to reversibly couple with said base member to facilitate alignment of said bores and engagement of said seal and said base member.

44. (new): An apparatus as recited in claim 43, further comprising:
means fluidically coupled to at least one said spray nozzle for receiving a pressurized fluid, allowing said fluid to flow when the pressure of the fluid exceeds a bias level, and preventing fluid flow when the pressure of the fluid falls below the bias level.

45. (new): An apparatus as recited in claim 44, wherein said means for receiving a pressurized fluid, allowing said fluid flow to flow when the pressure of the fluid exceeds a bias level, and preventing fluid flow when the pressure of the fluid falls below the bias level, comprises:

a valve body;

said valve body having an intake port, a central channel and an output port;

a valve seat disposed within said central channel; and

a biased valve head;

said valve head configured to allow fluid to flow between said intake port and said output port when the pressure of said fluid is sufficient to overcome the bias on said valve head;

said valve head configured to engage said valve seat when the pressure of the flow of fluid drops to a level insufficient to overcome the bias on said valve head.

46. (new): An apparatus as recited in claim 43, further comprising:
an anti-sputter flow control mechanism fluidically coupled to at least one said spray nozzle;

said at least one anti-sputter flow control mechanism comprising

(i) a valve body having an intake port, a central channel and an output port,

(ii) a valve seat disposed within said central channel, and

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(iii) a biased valve head configured to allow fluid to flow between said intake port and said output port when the pressure of said fluid is sufficient to overcome the bias on said valve head, and further configured to engage said valve seat when the pressure of the flow of fluid drops to a level insufficient to overcome the bias on said valve head.

47. (new): An apparatus as recited in claim 43, 44 or 46, wherein said seal has at least one frustoconical surface.

48. (new): An apparatus as recited in claim 43, 44 or 46, further comprising a filter positioned within said base member.